Claims

1. A stormwater treatment system for eliminating solid debris and pollutants from drainage discharge comprising, in combination:

(a) a cylindrical vessel having a closed base adapted to be buried underground;

(b) an inner cylindrical wall, contained within the cylindrical vessel, and protruding upward from the vessel's closed base;

(c) an inlet pipe extending through the wall of the cylindrical vessel for directing stormwater from the ground surface into the cylindrical vessel and discharging the stormwater at a predetermined angle to an axis of the inlet pipe;

(d) a vertical pipe, contained within the inner cylindrical wall and cylindrical vessel, said vertical pipe being open at opposed ends;

(e) an outlet pipe extending through the wall of the cylindrical vessel at a position diametrically opposed to the inlet pipe and further extending through the inner cylindrical wall to form a Tee with the vertical pipe; and

(f) at least one weir opening formed through the inner cylindrical wall at a predetermined height above the closed base.

2. The stormwater treatment system for eliminating solid debris and pollutants from drainage discharge, as in claim 1, wherein the predetermined angle is in a range of from about 45 to 90 and is in a generally horizontal plane.

3. The stormwater treatment system for eliminating solid debris and pollutants from drainage discharge as in claim 1 wherein at least one weir opening is a vertical slot.

4. The stormwater treatment system for eliminating solid debris and pollutants from drainage discharge as in claim 3 and further including a horizontal weir opening.

5. The stormwater treatment system for eliminating solid debris and pollutants from drainage discharge as in claim 1 wherein the inlet pipe, the outlet pipe and at least one opening are at the same elevation relative to the closed base.

6. The stormwater treatment system for eliminating solid debris and pollutants from drainage discharge as in claim 4 wherein the horizontal weir is at a lower elevation than the inlet pipe, the outlet pipe, and a bottom end of the vertical slot relative to the closed base.

7. A method for separating and eliminating solid debris from stormwater in a sewer system comprising the steps of:

(a) burying an outer cylindrical tank beneath the surface of the ground, said outer tank having a closed base supporting a concentrically disposed cylindrical wall to define an outer annular chamber and an inner cylindrical chamber said chamber wall having a weir opening formed through it at a first predetermined elevation about said base;

(b) providing a stormwater inlet pipe extending through the outer cylindrical tank leading to the annular chamber, the inlet pipe being in fluid communication with sewer inlet openings at ground surface and entering the outer cylindrical tank at said first predetermined elevation above the closed base;

(c) providing an outlet pipe that leads from the cylindrical chamber, through the cylindrical wall and through the outer cylindrical tank at said first predetermined elevation, the outlet pipe being connected to a vertically disposed vent pipe disposed in the cylindrical chamber and having an upper open end at an elevation above that of said cylindrical wall and a lower open end at a second predetermined elevation less than the first predetermined elevation; and

(d) allowing gravity to flow stormwater through the inlet pipe and around the annular chamber until the stormwater level in the annular chamber reaches the first predetermined elevation to flow through the weir opening into the cylindrical chamber, thereby increasing the settling time for solids present in the stormwater.

8. The method of claim 7 and further extending the settling time for solids circulating in the annular chamber by the time required for stormwater passing through the weir to exit the cylindrical tank by way of the vent pipe and outlet pipe.